

Research and Deployment Advisory Committee (RDAC) Meeting Minutes

Thursday, March 3, 2004

1227 O Street, Fifth Floor, Large Conference Room, #518 Facilitator: Mike Halverson

Workshop Attendees:

Sri Balasubramanian – Equipment

Hamed Benouar – UC/CCIT

Bob Buckley – DES

Joe Caputo – Maintenance/D3

Frank Cechini – FHWA

Susan Chang – Environmental/D4

Malcolm Dougherty – Maintenance & Operations/D6

Jim Edson – Maintenance

Bill Forrester – FHWA

Carl Haack –Project Management

Ed Hardiman – Equipment

Mike Keever (for Rob Stott) DES

Ken Kochevar –FHWA

Mark Leja – Design

Debbie Mah – Modal

Gene Mallette – Construction

Len Nelson – Maintenance

Jim Nicholas – Programming

Larry Orcutt – Research and Innovation

Frank Quon – Traffic Operations/D7

Susanna Reck –FHWA

Agustin Roseales – Maintenance

Joan Sollenberger – Planning

Phil Stolarski – DES/METS

C. “Muggs” Stoll – Environmental/D8

Karla Sutliff – Traffic Operations

Kris Teague – Equipment

Gary Winters – Environmental

John Wolf – Traffic Operations

Tom West – Traffic Operations

DRI Staff Attendees:

Juan Araya

Christine Azevedo

Nancy Chinlund

Don Dean

Mike Jenkinson

Wes Lum

Daniel Okoro

George Smith

Scott Williams

Introduction/Meeting Purpose:

The meeting began at 9:10 AM, with Larry Orcutt welcoming the group. Deployment is why we are here today. How do we make deployment happen? How do we take ideas and move them into a deployment reality? We need help from the districts and divisions. We need your buy-in and resources. The Division of Research and Innovation (DRI) is here to work with you, our customers. We realize that change is not easy, but if we work together, it is possible.

The key for today's workshop will be the work of the breakout groups, where existing projects will be discussed and resource commitments will be asked for, in moving ahead with these projects.

Deployment Concepts Presentation:

Don Dean presented to the group. He discussed the five stages of deployment, emphasizing that stages 3-5 (see attachment) will be DRI's main focus for deploying projects.

The Department, as a whole, needs to consider deployment much earlier in the research process. We can't wait until stage 4 or 5 to become involved; we must be actively involved at stages 1 and 2. The five stages represent the changing relationship between DRI and our customers. Both DRI and the customer share in all stages of research deployment, with DRI talking a stronger role in the early stages, and the customer taking the dominant role in stages 4 and 5.

Group Comments:

Comment: FHWA was criticized for not involving its users in the early stages of research, so they are looking to Caltrans for our new research/deployment process.

Comment: The five stages outlined seem to work well with "hard" research, but how does policy research fit into this process?

Comment: We need to focus on the objectives of our research in stage 1 - so that when we get to stage 5, we can 'validate' the result. Otherwise, we can end up with "scope creep".

Product Deployment Team Discussion (Breakout Groups):

Modal/Planning Breakout Group #1:

Group Attendees:

Bob Buckley	Engineering Services
Frank Cechini	Federal Highway Administration
Susan Chang	D-4, Environmental
Carl Haack	Project Management
Susanna Huges-Reck	Federal Highway Administration

Charles “Muggs” Stoll D11, Environmental
Karla Sutliff Traffic Operations

DRI Facilitators:

Don Dean
George Smith
Scott Williams

Projects Reviewed:

Efficient Deployment of Advanced Public Transit (EDAPTS)

Mainstreaming ITS

Project #1 – EDAPTS:

Sponsor for EDAPTS is the Division of Transportation Planning and the districts.
Potential Funding Sponsor is the Federal Transit Administration

Champion for EDAPTS is the Division of Mass Transportation

Question: What are the benefits of deploying this product?

- It should help in achieving the Department’s goals: safety, reliability, performance, etc.... as well as providing needs to the customer: low cost, flexibility, open standards.
- The fact sheet already identifies benefits. What are the results of what is already deployed? If a transit agency is currently using the product, the benefits should already be identified.

Question: Who needs to be involved in the deployment of this product?

- Should we be implementing this?
- We need to define our role. Who will have ongoing responsibility? Who evaluates and monitors for life-cycle costs?
- We need to have it in a tight package that can be supported by CalACT (California Association for Coordinated Transportation) and presented to other transit agencies.
- Include FTA, manufacturers, CSU-San Luis Obispo, CCIT; APTA, regional transportation entities (RTPAs, e.g.)

Question: What are the challenges?

- To effectively walk the line between public and private roles i.e. when moving from being a champion to implementation with intellectual property.
- Is this consistent with ITS architecture?
- Who needs to put the package together?
- Where does the money come from for installation, maintenance?
- The package should include cost/benefits, cost of individual features/components, and the cost of maintenance (life-cycle costs)
- What are the end users needs/concerns?

- Need to bring FTA back to the table for funding opportunities
- Stimulate competition between providers; who patents, and what are the intellectual property issues?

Question: What are the next steps?

- We should look to the call box example for how local agencies install and use a product
- Need to identify transit agency requirements
- Need to identify FTA requirements
- What is the role of CCIT (California Center for Innovative Transportation)
- I still think there is a continued role for the universities
- We still need to provide more test examples
- Need to check the original grant for objectives, and develop training and marketing plan. How long do we need to be overseeing and evaluating a product until we can consider it deployed?
- It is hard to forecast the amount of institutional support a project may need.
- This is also true in forecasting lifecycle costs for maintenance
- Need to analyze benefits, identify cost per module, analyze lessons learned from CSU- San Luis Obispo, find others to carry ball

Question: What should this group do next?

- I would like to know what kind of interest there is with the operators
- Identify what the roles are that the Department needs to play

Question: What are the next steps, organizationally?

- Debbie can bring us back to the table when she needs to.
- How long will this process take? (Too early to tell)
- It seems that we still have all the attributes of a project; we should be able to project the length of the process.

Project #2 - Mainstreaming ITS

Question: What is the benefit of deploying this product?

- No involvement equals no money; needed for statewide services as well as local and regional
- Overview description of what the department is doing in preparing for federal due date (April 2005): Systems Engineering, other work to integrate ITS into the department's policies and procedures

Question: What are the challenges?

- Implementing Technology
 - Identifying the project from the initial description to the final installation
 - internal communications
 - getting statewide architectural approvals

- interoperability
- securing institutional agreements with partners
- Need to have a defined goal, this is more than creating an ITS Architecture, it is creating a process
- There is still opportunity for research
- Each element still needs to be defined as a project. Defining the “project,” should help everyone understand what it is and why they should be involved.

Question: Who should be involved?

- DOTP will be the primary champion of the process
- DMT should be a primary champion of the projects
- Every functional division should be a sponsor if not secondary champion. Sponsors would also include the districts, FHWA and FTA.

Question: What are the next steps?

- Need a placeholder for these types of projects created.
- Expand the group.
- Request assistance: names of division and deputy sponsors
- Breakdown of initial products
- No immediate next steps for group, next step work can be done off-line
- We should think about a communications plan
- Joan’s advisory group would include this panel as well as the system engineering and California Statewide Architecture groups. It could include others working to mainstream ITS.
- Need to request from FHWA a for clarification of ITS “projects” that will be grandfathered in

The breakout session ended at 11:20 AM.

Equipment/Maintenance Breakout Group #2

Group Attendees:

Sri Balasubramanian	Equipment
Joe Caputo	D3, Maintenance
Jim Edson	Maintenance
Ed Hardiman	Equipment
Augstin Rosales	Maintenance
Len Nelson	Maintenance
Kris Teague	Equipment

DRI Facilitators:

Mike Jenkinson
Bob Meline

Projects Reviewed:

Longitudinal Crack Sealing Machine (LCSM)
Telerobotic Roadway Debris Vacuum System (ARDVAC)

The Mobile Work Zone Device (Balsi Beam) was not reviewed due to time constraints but will be addressed later.

Meeting Objective:

Reach consensus on project to be deployed. Identify sponsors, champions and others to be involved in deploying each project. Identify key issues to be addressed for each project and agree on next steps.

Project #1 LCSM:

Sponsor for the LCSM is the Division of Maintenance.
Champions for the LCSM are the DDDM for D3, D4, and D11.

Question- what is the benefit to deployment of this product?

- ◆ Safety –
 - Workers are removed from the roadway and placed inside the safety of a vehicle.
 - Workers do not need to handle the hot material or be exposed to hot material.
 - Reduced injuries due to better ergonomics.
- ◆ Production –
 - The ability to seal cracks faster with a smaller crew size.
 - Lowers highway congestion due to shorter duration for work zone closures or the use of moving closure instead of a static work zone closure.
 - Uniform results.

Question – What challenges need to be taken into consideration as we address the deployment of this product?

- ◆ Assess the need Statewide to determine the number of units required.
- ◆ More information needed to:
 - Determine crew size and HQ Maintenance staffing
 - Address lack of use as shown by IMMS reports
- ◆ Better marketing to Districts on capabilities to increase interest.
- ◆ Better scheduling for usage of the LCSM between districts is needed. Do not let sit when not in use.
- ◆ Better documentation for drawings, engineering analysis and specifications for either local production or contacting out the work.
- ◆ Need to develop an Evaluation Plan.

Question - Who needs to be involved in the deployment of this product?

- ◆ Equipment Users (Districts)
- ◆ Equipment supplier (DE)
- ◆ HQ Maintenance
- ◆ Safety
- ◆ Private Manufacturers
- ◆ Researcher (UCD/AHMCT)

Question – What are the next steps?

- ◆ Have each District determine the lane miles that need this type of maintenance to determine the number of units needed.
- ◆ Evaluate areas with cracks that have been sealed in the past with this system.
- ◆ Develop evaluation plan, and then operate the LSCM for no more than 1 year to gather additional data.
- ◆ Need to assign someone at HQ Maintenance to track and ensure usage and evaluation of LSCM.

Project #2 ARDVAC:

Sponsor for the ARDVAC is Division of Maintenance.

Champions for the ARDVAC are the DDDM for D3, D4, D5, D7, D8, D11, and D12

Question- what is the benefit to deployment of this product?

- ◆ Safety –
 - Workers are removed from the roadway and placed inside the safety of a vehicle.
 - Reduced injuries from automation
- ◆ Production
 - Allows better Level Of Service (LOS) for litter pickup in hazardous areas
 - Allows a single operator to perform the function of a crew of two or more
 - Possible reduction in litter complaints from the public (75% of all complaints in urban districts)

Question – What challenges need to be taken into consideration as we address the deployment of this product?

- ◆ Purchasing the product (sole source issues)
- ◆ Need to re-engineer system if produced internally or under Caltrans contract.
- ◆ Formal evaluation of the product to establish justifiable data.
- ◆ DE resources for specification documentation, purchasing procedures...
- ◆ Can it be rented or leased?
- ◆ Development of Code of Safe Practices
- ◆ Getting the message across that this can be used for more than just litter.

Question - Who needs to be involved in the deployment of this product?

- ◆ Equipment Users (Districts)
- ◆ Equipment supplier (DE)
- ◆ HQ Maintenance
- ◆ Safety
- ◆ Private Manufacturers
- ◆ Researcher (UCD/AHMCT)

Question – What are the next steps?

- ◆ Look into possibility of rental for evaluation instead of purchase.
- ◆ Formal evaluation completed within 6 months.

Traffic Operations/Project Development Breakout Group #3

Group Attendees:

Hamed Benouar	California Center for Innovative Transportation
Ken Kochevar	Federal Highway Administration
Mark Leja	Design
Gene Mallette	Construction
Jim Nicholas	Programming
Frank Quon	D7, Traffic Operations
Phil Stolarski	Engineering Services/MET
Tom West	Traffic
John wolf	Traffic

DRI Facilitators:

Juan Araya
Greg Larson
Daniel Okoro

Project #1 “Simulation Software for Constructability Analysis”

Question - What benefits does the deployment of this product bring to Caltrans?

- Provides the least impact solution for construction
- Saves money and reduces delays
- Improves safety of our workers and the traveling public
- It is a tool that can be used in the traffic management plan

Question - What obstacles do you see to the deployment of this product?

- Software maintainability
- Lack of awareness that the software is available to use
- Lack of awareness of all the capabilities of the software

Question - Who else needs to be involved in the deployment of this product?

-Districts and HQ Traffic, HQ Design, HQ Construction and HQ Planning will be end users of this product.

Question - Who is the champion of this product?

-Division of Design is the corporate owner of this product.

Question - What needs to be done next?

- We need to market its use.
- A Statewide training plan must be develop
- A full cost analysis plan needs to be completed
- Do we need an FSR?
- Division of Design Contact person is Mary Beth Herritt
- Project development team from the districts should also be involved.

Question - When should the next meeting take place?

Within 30 days a transition deployment team should be in place, we need a support structure form by:

DRI, Berkeley, Design, D7, D4, HQ Design, HQ Traffic, HQ Construction and D8 to make sure the product deployment goes smoothly.

Project #2 Inductive Signature Technology Loop Detector Card:

Question- what is the benefit to deployment of this product?

- ◆ Less likely to lock-up
- ◆ Performance measure
- ◆ Control device

Question – What challenges need to be taken into consideration as we address the deployment of this product?

- ◆ Sole Source
- ◆ How do you bring this product into Caltrans?
- ◆ No existing controllers capabilities to use the card

Question - Who needs to be involved in the deployment of this product?

- ◆ Traffic Operations

Question – What are the next steps?

- ◆ Standards and Specs.
- ◆ Detection Plan
- ◆ Transition for deployment.

Project #3 Fredonyer Summit

Question- what is the benefit to deployment of this product?

- ◆ Reduces accidents on Icy curves

Question – What challenges need to be taken into consideration as we address the deployment of this product?

- ◆ No performance report.
- ◆ Consider tort liabilities with full-automated system.

Question - Who needs to be involved in the deployment of this product?

- ◆ Maintenance
- ◆ Procurement
- ◆ Legal
- ◆ IT

Question – What are the next steps

- ◆ Needs to be institutionalized.
- ◆ Track product performance – say 2 years.
- ◆ Ken Kochavar will be involved.

We are in the pilot stage.

Reconvene/Team Reports:

Breakout Group #1 selected EDAPTS and State ITS Training to discuss.

EDAPTS: There was group consensus and commitment to deploy this project. They believe that marketing could be valuable to get rural, county and transit authority buy-in.

ITS Training: What are the products that we want out of this training? How does it tie in with DRI's training? There was group consensus and commitment to deploy this project, though they feel more federal oversight is needed.

Breakout Group #2 selected the Longitudinal Crack Sealing Machine (LCSM) and the Telerobotic Roadway Debris Vacuum System (ARDVAC) to discuss.

LCSM: They need to test first before they purchase. They need more information and data on usage. They would also like district involvement to field-test the machine before committing to purchasing them. This will be approximately a 12-month commitment for testing. The districts would be the equipment supplier and the product champion would be HQ's Maintenance Division.

ARDVAC: There was group consensus to deploy this product. They would like to have the option to rent this equipment. The product is already built and in place (efficiency and performance) so before actually purchasing or making a financial commitment, they need more product evaluation.

Group feedback: the University California at Davis should be involved in this discussion.

Breakout Group #3 selected all three of their products to discuss: the Simulation Software for Constructability Analysis and the Inductive Signature Technology Loop Detector Card and the Fredonyer Summit.

In the next 30 days, this breakout group will reconvene to discuss some of the group's concerns that they didn't have time to discuss in this short time period. The group will meet and consist of the Division of Design, Districts 4, 7, 8 and HQ's staff. Some of the next steps consist of reviewing the notes taken in today's session and developing a transition team.

Active Projects Review:

Larry Orcutt distributed a list of active research projects to the participants. He asked them to review the list and to identify projects that they would be willing to commit to deploying in the future.

California Center for Innovative Transportation (CCIT):

Hamed Benouar gave a brief presentation describing the California Center for Innovative Transportation (CCIT). CCIT is available to assist in deployment of the Department's research products.

Closing Meeting Process Overview:

- Set up a process that is transferable to other research projects. There are lots of other research projects that could fit this description.
- There should also have been more background information, as well as, technical information given about these projects to each breakout group.
- It was a very valuable meeting and the group commended DRI's efforts to getting everyone to participate.
- There needs to be a follow-up group (oversight) for each breakout group session. In essence, a sponsorship group.